



PATENT
Attorney Docket No. 224738
Client Reference No. E-219-2002/2-US-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Sam HWANG

Group Art Unit: Unassigned

Application No. 10/706,265

Examiner: Unassigned

Filed: November 12, 2003

For: METHODS OF INHIBITING
METASTASIS OR GROWTH OF A
TUMOR CELL

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Pursuant to 37 CFR 1.97 and 1.98, the references listed on the enclosed Form PTO-1449 and/or Substitute Form PTO-1449 ("Form 1449") are submitted for consideration by the Examiner in the examination of the above-identified patent application.

The full consideration of the references in their entirety by the Examiner is respectfully requested and encouraged. Also, it is respectfully requested that the references be entered into the record of the present application and that the Examiner place his or her initials in the appropriate area on the enclosed Form 1449, thereby indicating the Examiner's consideration of each of the references.

The submission of the references listed on the Form 1449 is for the purpose of providing a complete record and is not a concession that the references listed thereon are prior art to the invention claimed in the patent application. The right is expressly reserved to establish an invention date earlier than the above-identified filing date in order to remove any reference submitted herewith as prior art should it be deemed appropriate to do so.

Further, the submission of the references is not to be taken as a concession that any reference represents art that is relevant or analogous to the claimed invention. Accordingly, the right to argue that any reference is not properly within the scope of prior art relevant to an examination of the claims in the above-identified application is also expressly reserved.

The Information Disclosure Statement is being filed:

- ☒ **within** any one of the following time periods: (a) within three months of the filing date of a national application other than a continued prosecution application under 37 CFR 1.53(d); (b) within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 of an international application; (c) before the mailing date

of a first Office Action on the merits; or (d) before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

- ☐ **after** (a), (b), (c) or (d) above, but before the mailing date of a final action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an action that otherwise closes prosecution in the application, and includes *one* of:
- ☐ the Statement under 37 CFR 1.97(e) (see "Statement under 37 CFR 1.97(e)" below).
- or*
- ☐ the fee of \$180 set forth in 37 CFR 1.17(p) (see "Fees" below).
- ☐ **after** the mailing date of a final action under 37 CFR 1.113 or a Notice of Allowance under 37 CFR 1.311, or an action that otherwise closes prosecution in the application, and on or before payment of the issue fee, and includes the Statement under 37 CFR 1.97(e) (see "Statement under 37 CFR 1.97(e)" below), and the fee of \$180 as set forth in 37 CFR 1.17(p) (see "Fees" below).
- ☐ **after** the mailing date of a Notice of Allowance under 37 CFR 1.311, and on or before payment of the issue fee, and **within** thirty days of receiving each item of information contained in the Information Disclosure Statement, and includes the Statement under 37 CFR 1.704(d) (see "Statement under 37 CFR 1.704(d)" below), and the fee of \$180 as set forth in 37 CFR 1.17(p) (see "Fees" below).

NOTE: This is for original applications except applications for a design patent, filed on or after May 29, 2000, wherein a paper containing only an Information Disclosure Statement in compliance with 37 CFR 1.97 and 1.98 is being filed.

Copies of the References

- ☒ Copies of the non-U.S. patent/application references listed on the enclosed Form 1449 are enclosed herewith. Attached to each reference not in the English language is a concise explanation of the relevance pursuant to 37 CFR 1.98(a)(3). An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of the relevance pursuant to 37 CFR 1.98(a)(3).
- ☐ A copy of the foreign search report is enclosed herewith.
- ☐ The references listed on the enclosed Form 1449 were previously identified in the parent application(s) of the present application, and copies of the references were furnished at that time. Accordingly, additional copies of the references are not submitted herewith, so as not to burden the file with duplicate copies of references. The Examiner is respectfully requested to carefully review the references in accordance with the requirements set out in the Manual of Patent Examining Procedure. In accordance with 37 CFR 1.98(d), the details of the parent application(s)

In re Appln. of Sam HWANG
U.S. Patent Appln. No. 10/706,265

relied upon for an earlier filing date under 35 USC 120 in which copies of the references were previously furnished are set out below:

U.S. APPLICATIONS		Status (<i>check one</i>)		
U.S. APPLICATIONS	U.S. FILING DATE	PATENTED	PENDING	ABANDONED
1.				
2.				
3.				

Statement under 37 CFR 1.97(e)

- ☐ The **undersigned** hereby states that each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign patent application not more than three months prior to the filing of the Information Disclosure Statement.
- ☐ The **undersigned** hereby states that no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign patent application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the Information Disclosure Statement.

Statement under 37 CFR 1.704(d)

- ☐ The **undersigned** hereby states that each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and that this communication was not received by any individual designated in 37 CFR 1.56(c) more than thirty days prior to the filing of the Information Disclosure Statement.

Fees

- ☒ No fee is owed by the applicant(s).
- ☐ The **IDS Fee of \$180** under 37 CFR 1.17(p) is enclosed herewith.

Method of Payment of Fees

- ☐ Attached is a check in the amount of \$.
- ☐ Charge Deposit Account No. 12-1216 in the amount of \$. (A duplicate copy of this communication is enclosed for that purpose.)

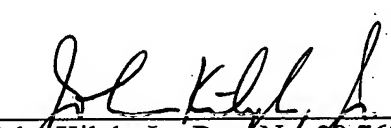
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Authorization to Charge Additional Fees

- ☒ If any additional fees are owed in connection with this communication, please charge Deposit Account No. 12-1216. (A duplicate copy of this communication is enclosed for that purpose.)

Instructions as to Overpayment

- ☒ Credit Account No. 12-1216.
☐ Refund



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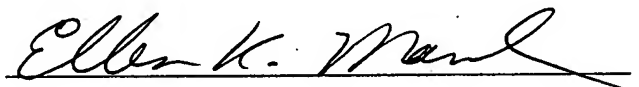
Date: January 20, 2004

CERTIFICATE OF MAILING

I hereby certify that this INFORMATION DISCLOSURE STATEMENT (along with any documents referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: _____

1-20-04



Substitute for form 1449A/B/PTO JAN 23 2004 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
				Application Number	10/706,265
				Filing Date	November 12, 2003
				First Named Inventor	Hwang
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
Sheet	1	of	3	Attorney Docket Number	224738

U.S. PATENT DOCUMENTS						
Examiner Initials	Doc. No.	U.S. Patent Document		Name of Patentee or Applicant	Date of Publication	Filing Date If Appropriate
		Application or Patent Number	Kind Code			
	AA	5,449,752		Fujii et al.	Sep. 12, 1995	Apr. 29, 1992

FOREIGN PATENT DOCUMENTS								
Examiner Initials	Doc. No.	Foreign Patent Document			Name of Patentee or Applicant	Date of Publication	Translation	
		Office	Application or Patent Number	Kind Code			Yes	No**
	AB	WO	01/85196	A2	University of British Columbia et al.	Nov. 15, 2001		
	AC	WO	99/47158	A2	University of British Columbia	Sep. 23, 1999		
	AD	WO	99/50461	A1	Northwest Biotherapeutics, Inc.	Oct. 7, 1999		

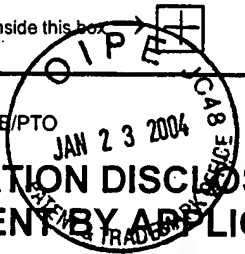
OTHER - NON PATENT LITERATURE DOCUMENTS							
Examiner Initials	Doc. No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number (s), publisher, city and/or country where published.				Translation	
						Yes	No**
	AE	ALON et al., "The Integrin VLA-4 Supports Tethering and Rolling in Flow on VCAM-1," <i>J. Cell. Biol.</i> , Vol. 128 (6), pp. 1243-1253 (1995)					
	AF	ARAKAKI et al., "T134, a Small-Molecule CXCR4 Inhibitor, Has No Cross-Drug Resistance with AMD3100, a CXCR4 Antagonist with a Different Structure," <i>J. Virol.</i> , Vol. 73 (2), pp. 1719-1723 (1999)					
	AG	BALKWILL, "Chemokine biology in cancer," <i>Semin. Immunol.</i> , Vol. 15, pp. 49-55 (2003)					
	AH	CLARK et al., "Genomic analysis of metastasis reveals an essential role for RhoC," <i>Nature</i> , Vol. 406, pp. 532-535 (2000)					
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	AJ	COHN-CEDERMARK et al., "Metastatic Patterns, Clinical Outcome, and Malignant Phenotype in Malignant Cutaneous Melanoma," <i>Acta Oncol.</i> , Vol. 38 (5), pp. 549-557 (1999)					
	AK	COIT et al., "Prognostic Factors in Patients With Melanoma Metastatic to Axillary or Inguinal Lymph Nodes," <i>Ann Surg.</i> , Vol. 214 (5), 627-636 (1991)					
	AL	CONSTANTIN et al., "Chemokines Trigger Immediate β 2 Integrin Affinity and Mobility Changes: Differential Regulation and Roles in Lymphocyte Arrest under Flow," <i>Immunity</i> , Vol. 13, pp. 759-769 (2000)					
	AM	DORANZ et al., "Safe Use of the CXCR4 Inhibitor ALX40-4C in Humans," <i>AIDS Res. Hum. Retroviruses</i> , Vol. 17 (6), pp. 475-486 (2001)					
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	AO	FRIES et al., "Expression of VCAM-1 and E-Selectin in an <i>in Vivo</i> Model of Endothelial Activation," <i>Am. J. Pathol.</i> , Vol. 143 (3), pp. 725-737 (1993)					
	AP	GEMINDER et al., "A Possible Role for CXCR4 and Its Ligand, the CXC Chemokine Stromal Cell-Derived Factor-1, in the Development of Bone Marrow Metastases in Neuroblastoma ¹ ," <i>J. Immunol.</i> , Vol. 167, pp. 4747-4757 (2001)					
	AQ	GIAVAZZI et al., "Rolling and Adhesion of Human Tumor Cells on Vascular Endothelium under Physiological Flow Conditions," <i>J. Clin. Invest.</i> , Vol. 92, pp. 3038-3044 (1993)					

Examiner Signature	Date Considered
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* A concise statement of relevance is being submitted in lieu of a translation. 37 CFR 1.98(a)(3).

+ An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise

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Substitute for form 1449A/E/PTO

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(Use as many sheets as necessary)

Complete if Known

Application Number	10/706,265
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First Named Inventor	Hwang
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	224738

Sheet 2 of 3

OTHER - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Doc. No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number (s), publisher, city and/or country where published.	Translation	
			Yes	No**
	AR	HART et al., "Role of Organ Selectivity in the Determination of Metastatic Patterns of B16 Melanoma ¹ ," <i>Cancer Res.</i> , Vol. 40, pp. 2281-2287 (1980)		
	AS	HENDRIX et al., "Pharmacokinetics and Safety of AMD-3100, a Novel Antagonist of the CXCR-4 Chemokine Receptor, in Human Volunteers," <i>Antimicrob., Agents Chemother.</i> , Vol. 44 (6), pp. 1667-1673 (2000)		
	AT	KIJIMA et al., "Regulation of Cellular Proliferation, Cytoskeletal Function, and Signal Transduction through CXCR4 and c-Kit in Small Cell Lung Cancer Cells," <i>Cancer Res.</i> , Vol. 62, pp. 6304-6311 (2002)		
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	AV	LANGLEY et al., "Endothelial Expression of Vascular Cell Adhesion Molecule-1 Correlates with Metastatic Pattern in Spontaneous Melanoma," <i>Microcirculation</i> , Vol. 8, pp. 335-345 (2001)		
	AW	LAWRENCE et al., "Effect of Flow on Polymorphonuclear Leukocyte/Endothelial Cell Adhesion," <i>Blood</i> , Vol. 70 (5), pp. 1284-1290 (1987)		
	AX	LAWRENCE et al., "Neutrophils Roll on E-Selectin ¹ ," <i>J. Immunol.</i> , Vol. 151 (11), pp. 6338-6346 (1993)		
	AY	LIBURA et al., "CXCR4-SDF-1 signaling is active in rhabdomyosarcoma cells and regulates locomotion, chemotaxis, and adhesion," <i>Blood</i> , Vol. 100 (7), pp. 2597-2606 (2002)		
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	BA	MAKI et al., "CCR6 Colocalizes with CD18 and Enhances Adhesion to Activated Endothelial Cells in CCR6-Transduced Jurkat T Cells," <i>J. Immunol.</i> , Vol. 169, pp. 2346-2353 (2002)		
	BB	MASHINO et al., "Expression of Chemokine Receptor CCR7 Is Associated with Lymph Node Metastasis of Gastric Carcinoma ¹ ," <i>Cancer Res.</i> , Vol. 62, pp. 2937-2941 (2002)		
	BC	MENTER et al., "Human melanoma integrins contribute to arrest and stabilization potential while flowing over extracellular matrix," <i>Immunol. Cell Biol.</i> , Vol. 73, pp. 575-583 (1995)		
	BD	MIDDLETON et al., "Transcytosis and Surface Presentation of IL-8 by Venular Endothelial Cells," <i>Cell</i> , Vol. 91, pp. 385-395 (1997)		
	BE	MÜLLER et al., "Involvement of chemokine receptors in breast cancer metastasis," <i>Nature</i> , Vol. 410, pp. 50-56 (2001)		
	BF	MURAKAMI et al., "Expression of CXC Chemokine Receptor-4 Enhances the Pulmonary Metastatic Potential of Murine B16 Melanoma Cells ¹ ," <i>Cancer Res.</i> , Vol. 62, pp. 7328-7334 (2002)		
	BG	MURAKAMI et al., "A Small Molecule CXCR4 Inhibitor that Blocks T Cell Line-tropic HIV-1 Infection," <i>J. Exp. Med.</i> , Vol. 186 (8), pp. 1389-1393 (1997)		
	BH	MURPHY et al., "Chemokines and the Molecular Basis of Cancer Metastasis," <i>N. Engl. J. Med.</i> , Vol. 345 (11), pp. 833-835 (2001)		
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Examiner Signature		Date Considered	
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* A concise statement of relevance is being submitted in lieu of a translation. 37 CFR 1.521(a)(2)

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Complete if Known

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Attorney Docket Number	224738

Sheet	3	of	3
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OTHER - NON PATENT LITERATURE DOCUMENTS

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Examiner Signature

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